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Deadline for submission: January 5, 2001

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R#

1331

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Effect of sodium hypochlorite on microleakage of composite restorations bonded with a polyalkenoic containing adhesive system. L. CEBALLOS, R. OSORIO\*, FR. TAY, M. TOLEDANO.(Univ. of Granada, Spain; Univ.of Hong-Kong, China)

The purpose of this study was to evaluate the effect of sodium hypochlorite application (5%, 2min) after acid etching (35% H<sub>3</sub>PO<sub>4</sub>, 15sec) on dentin and enamel microleakage (ML) when a polyalkenoic containing adhesive system (Scotchbond 1 Adhesive System -3M-) is used. 20 class V cavities were prepared in 10 human extracted molars. Specimens were assigned to two equal groups (with and without hypochlorite application). Cavities were restored with Scotchbond 1 and Z100 resin composite -3M-, and polished. Specimens were thermocycled (500x). The apices of the teeth were sealed and the teeth coated with a nail polish. Samples were immersed in 0.5% solution of basic fuchsin for 24 h., and sectioned. Sections were examined under a stereomicroscope and the staining along occlusal (O) or gingival (G) margins were recorded according to the criteria: 0:no dye,1:dye along half of the O or G walls, 2:dye along the complete O or G walls 3:dye along the axial wall. ML values are shown in the table. Mann-Whitney U test was used for comparisons (p<0.05). 4 specimens were analysed under scanning electron microscopy (SEM) and some of them were demineralized and processed for transmission electron microscopy (TEM).

	OCCLUSAL			GINGIVAL		
	0	1	2 3	0	1	2 3
Dentin treatment	0	1	2 3	0	1	2 3
H <sub>3</sub> PO <sub>4</sub>	11	1	0 0	2	0	1 9
H <sub>3</sub> PO <sub>4</sub> + NaOCl	10	1	1 0	0	1	4 7

No differences in ML were found between groups. Gingival leaked more than occlusal. TEM and SEM images showed that collagen was not completely removed by hypochlorite, but interfaces were different in both groups.(Grant #MAT98-0937-C02).

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of the 79th General Session of the International Association for Dental Research (June 27-30, 2001)